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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
GOUDREAU, GEORGE A	
ART UNIT	PAPER NUMBER
1763	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/923,058	BECKER ET AL.	
	Examiner	Art Unit	
	George A. Goudreau	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *30-49,60-78,89-115 and 118-126* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *30-49,60-62 and 124* is/are allowed.

6)☒ Claim(s) *63, 68, 70-74, 89-96, 102-105, 114-115, 118-123, and 125-126* is/are rejected.

7)☒ Claim(s) *64-67,69,75-78,97-101 and 106-113* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

George A Goudreau

GEORGE GOUDREAU
PRIMARY EXAMINER
4-05 1

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. This action will not be made final due to the new grounds of rejection.

2. Applicant's arguments with respect to claims of record have been considered but are moot in view of the new ground(s) of rejection.

3. The examiner was able to review, and to initial all of the references listed on the IDS, which was most recently submitted with the exclusion of C77-C78. These references are not properly listed on the IDS form. For each of the listed abstracts, the author of the abstract, the date of publication of the abstract, and the source information from which the abstract was obtained should be listed in English. Also, it would be helpful to the examiner if applicant would submit complete English language translations of each of these abstracts since the examiner doesn't read Japanese.

4. Applicant has submitted numerous IDS statements, which cite numerous references. The examiner has attempted to carefully review each of these references for their content relative to applicant's claimed invention. The examiner requests applicant to explain the relevancy of every document submitted on their 1449 forms in order to facilitate the accurate review of these references relative to applicant's claimed invention by the examiner due to the large number of documents submitted to the examiner by applicant for review.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 63, 68, 72-74, 89-90, 92-96, 102-105, 115, 120-123, and 125-126 are rejected under 35 U.S.C. 102(e) as being anticipated by

Kadomura et. al. (5,312,518)

Kadomura et. al. disclose a process for selectively mrie etching a SiO2 layers (15, 18) to an underlying Si3N4 layer (14) with an etch selectivity greater than 20/1 x. They employ a plasma etchant, which is comprised of S2F2-H2 with the cathode kept at a temperature of 50 C. This is discussed specifically in columns 7-8; and discussed in general in columns 1-10. This is shown specifically in figure 2b, and shown in general in figures 1-3.

The wafer has inherently been heated in order to increase the selectivity of the SiO2 to Si3N4 etch process. The examiner cites the case law listed below of interest to the applicant in this regard.

In re Swinehart (169 U.S.P.Q. 226 (CCPA)) and In re Best (195 U.S.P.Q. 430 (CCPA) state that when an examiner has reasonable basis for believing that functional characteristics asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be inherent characteristics of the prior art, the examiner possesses the authority to require an applicant to prove that the subject matter shown to be in the prior art does not possess the characteristics relied upon.

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 70-71, 91, 114, and 118-119 are rejected under 35 U.S.C. 103(a) as being unpatentable over the reference as applied in paragraph 6 above.

The reference as applied in paragraph 6 above fail to disclose the following aspects of applicant's claimed invention:

-the specific etching process parameters which are claimed by the applicant, and

-the specific usage of an inert gas diluent such as Ar in the plasma etchant

It would have been obvious to one skilled in the art to employ an inert gas diluent such as Ar in the plasma etchant, which is employed in the etching process, which is taught above base upon the following. The usage of an inert gas diluent such as Ar in a plasma etchant is conventional or at least well known in the plasma etching arts. (The examiner takes official notice in this regard.) Further, this simply represents the usage

of an alternative, an at least equivalent means for providing a plasma etchant in the etching process taught above to the specific means, which are taught above.

It would have been prima facie obvious to employ any of a variety of different etching process parameters in the etching process taught above including those which are specifically claimed by the applicant. These are all well-known variables in the plasma etching art, which are known to affect both the rate and the quality of the plasma etching process. Further, the selection of particular values for these variables would not necessitate any undo experimentation, which would have been indicative of unexpected results.

Alternatively, it would have been obvious to one skilled in the art to employ the specific etch process parameters in the etching process taught above based upon In re Aller as cited below.

Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.≅ In re Aller, 220 F. 2d 454, 105 USPQ 233, 235 (CCPA).

Further, all of the process parameters, which are claimed by the applicant, are results effective variables whose values are known to effect both the rate, and the quality of the plasma etching process.

10. Claims 64-67, 69, 75-78, 97-101, and 106-113 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claims 30-49, 60-62, and 124 are allowed.

12. Any inquiry concerning this communication should be directed to examiner George A. Goudreau at telephone number (571)-272-1434.

George A. Goudreau
Primary Examiner
Art Unit 1763